U.S. Patent Application No.: 10/582,002

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the

application:

LISTING OF CLAIMS:

1. (withdrawn-currently amended): A method for suppressing a reduction in an

endoglucanase activity in the presence of a surfactant, characterized by modifying a protein

having the endoglucanase activity in which the N-terminus is an amino acid other than

pyroglutamic acid, to a protein according to claim 57, having the N-terminus of pyroglutamie

acid.

2. (withdrawn): The method according to claim 1, wherein the modification is

carried out by adding pyroglutamic acid or an amino acid convertible into pyroglutamic acid, or

a peptide having the N-terminus of pyroglutamic acid or an amino acid convertible into

pyroglutamic acid, to the N-terminus of the protein having the endoglucanase activity in which

the N-terminus is an amino acid other than pyroglutamic acid.

3. (withdrawn): The method according to claim 1, wherein the modification is

carried out by substituting pyroglutamic acid or an amino acid convertible into pyroglutamic

acid, or a peptide having the N-terminus of pyroglutamic acid or an amino acid convertible into

pyroglutamic acid, for the N-terminal amino acid or an N-terminal region of the protein having

the endoglucanase activity in which the N-terminus is an amino acid other than pyroglutamic

acid.

2

U.S. Patent Application No.: 10/582,002

4. (withdrawn): The method according to claim 1, wherein the protein having the endoglucanase activity in which the N-terminus is an amino acid other than pyroglutamic acid is a cellulase belonging to family 45.

5-6. (canceled).

- 7. (currently amended): An isolated protein selected from the group consisting of:
- a protein comprising the amino acid sequence of SEQ ID NO: 2, 4, 38,
 or 40, wherein the N-terminal amino acid is pyroglutamic acid; and
- (b) a protein comprising an amino acid sequence having at least 85%05% identity to the amino acid sequence of SEQ ID NO: 2, 4, 38, or 40, and having an endoglucanase activity, wherein the N-terminal amino acid is pyroglutamic acid.
- (withdrawn): An isolated polynucleotide encoding the protein according to claim 7.
 - 9. (withdrawn): An isolated polynucleotide selected from the group consisting of:
 - (a) a polynucleotide comprising the nucleotide sequence of SEQ ID NO: 1, 3, 37, or 39; and
 - (b) a polynucleotide hybridizing under stringent conditions to a
 polynucleotide consisting of the nucleotide sequence of SEQ ID NO: 1, 3,
 37, or 39, and encoding a protein having an endoglucanase activity.

U.S. Patent Application No.: 10/582,002

10. (withdrawn): An expression vector comprising the polynucleotide according to

claim 8.

11. (withdrawn): A host cell transformed with the expression vector according to

claim 10.

12. (withdrawn): The host cell according to claim 11, wherein the host cell is a yeast

or filamentous fungus.

13. (withdrawn): The host cell according to claim 12, the filamentous fungus is a

microorganism belonging to genus Humicola or Trichoderma.

14. (withdrawn): The host cell according to claim 13, the filamentous fungus is

Humicola insolens or Trichoderma viride.

15. (withdrawn): A process for producing the protein according to claim 5,

comprising:

cultivating a host cell transformed with an expression vector comprising a polynucleotide

encoding the protein, and

recovering the protein from the host cell or culture obtained by the cultivation.

16. (previously presented): A protein produced by the steps comprising:

4

U.S. Patent Application No.: 10/582,002

cultivating a host cell transformed with an expression vector comprising a polynucleotide

encoding the protein according to claim 7, and recovering the protein from the host cell or

culture obtained by the cultivation.

17. (withdrawn): The method according to 2, wherein the protein having the

endoglucanase activity in which the N-terminus is an amino acid other than pyroglutamic acid is

a cellulase belonging to family 45.

18. (withdrawn): The method according to claim 3, wherein the protein having the

endoglucanase activity in which the N-terminus is an amino acid other than pyroglutamic acid is

a cellulase belonging to family 45.

19-20. (canceled).

5